

Amendments to the Claims:

Claims 10-17 are pending in this application prior. By action of this Amendment, Claims 10 and 12-17 are amended.

This listing of claims will replace all prior versions, and listings, in the application.

Claim 10. (Currently amended) A method of converting extracting heat from a hot gas to generate electricity using a multi-component working fluid comprising ammonia and water in a single continuous stream, comprising the steps of:

- a. pressuring said working fluid in liquid form in a feedpump;
- b. heating said working fluid liquid in a recuperator to its boiling point and partially vaporizing it;
- c. further heating the entirety of said working fluid liquid-vapor mixture in a heater to fully vaporize it and further heating the entirety of said working fluid to a superheated vapor state, said heater comprising a heat exchanger using [[a]] said hot gas that supplies heat to said working fluid liquid-vapor mixture and arranged in counter-flow to said working fluid vapor mixture;
- d. reducing the pressure and enthalpy of said superheated working fluid vapor mixture by expansion through a turbine, and using said turbine to generate electricity;
- e. cooling and partially condensing [[said]] the low-pressure working fluid vapor mixture emerging from said turbine in said recuperator, which is arranged in counter-flow to said high-pressure working fluid liquid from said feedpump, and partially vaporizing said high-pressure working fluid liquid;
- f. further cooling and further completely condensing said low-pressure working fluid in a cooler, said cooler being a heat exchanger using a second fluid that absorbs heat from the working fluid and arranged in counter-flow to the working fluid;
- g. returning the low-pressure liquid working fluid leaving said cooler to [[the]] said feedpump to form a closed loop system.

Claim 11 The method as recited in claim 10, wherein:

said low-pressure working fluid leaving said recuperator is cooled in a first cooler to a temperature higher than its fully condensed temperature, such first cooler being a heat exchanger using a second fluid that absorbs heat from the working fluid and arranged in counter-flow to the working fluid; and

said low-pressure working fluid leaving the first cooler is cooled and fully condensed in a second cooler, such second cooler being a heat exchanger using a third fluid that absorbs heat from the working fluid and arranged in counter-flow to the working fluid.

Claim 12. (Currently amended) The method as recited in claim 10, wherein:

said partially vaporized high-pressure working fluid from said recuperator is fully vaporized in a pre-heater prior to being introduced to said heater;

said superheated high-pressure working fluid is directed from the heater to ~~[[the]]~~ said pre-heater to supply vaporization energy and returned to the heater for continued superheating;

said pre-heater arranged with partially vaporized working fluid in counter-flow to the superheated working fluid.

Claim 13. (Currently amended) The method as recited in claim 10 wherein ~~[[the]]~~ said hot gas that supplies heat to said working fluid in said heater is a flue gas produced by combusting biomass.

Claim 14. (Currently amended) The method as recited in claim 10 wherein ~~[[the]]~~ said hot gas that supplies heat to said working fluid in said heater is a flue gas produced as a waste product of an existing industrial process.

Claim 15. (Currently amended) An apparatus for converting heat to electricity, comprising:

a multi-component working fluid containing ammonia and water;

a feedpump for pressurizing said multi-component working fluid;

a recuperator for heating and partially vaporizing said high-pressure working fluid leaving the feedpump using heat from cooling and partially condensing low-pressure working fluid leaving a turbine, such recuperator arranged in counter-flow;

connection means for conveying the entirety of said partially vaporized high-pressure working fluid to a heater;

a heater for fully vaporizing and superheating the entirety of said high-pressure working fluid which has been partially vaporized before entering said heater;

a turbine for expanding the superheated working fluid to a low-pressure and extracting useful energy to generate electricity; and

a cooler for cooling and condensing said low-pressure working fluid which has been partially condensed in said recuperator before entering the cooler.

Claim 16. (Currently amended) The apparatus as claimed in claim 15 wherein said cooler comprises:

a first cooler heat exchanger to extract heat from said low-pressure working fluid which as been partially condensed in said recuperator to heat a second fluid; and

a second cooler heat exchanger for further extracting heat from said low-pressure working fluid which as been partially condensed in said recuperator and said first cooler unit to heat [[to]] a third fluid.

Claim 17. (Currently amended) The apparatus as claimed in claim 15 further comprising:

a pre-heater to fully vaporize the entirety of said high-pressure working fluid leaving the recuperator in partially vaporized state by using superheated high-pressure working fluid directed from the heater and arranged in counter-flow, and returning said superheated high-pressure working fluid to the heater for continued superheating;

connection means for conveying the entirety of said high pressure working fluid from said recuperator to said pre-heater; and

connection means for conveying the entirety of said superheated high-pressure working fluid to said pre-heater.